

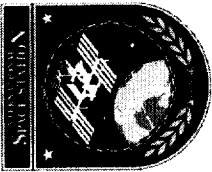
Flight 6A Microgravity Analysis



Flight 6A Microgravity Analysis

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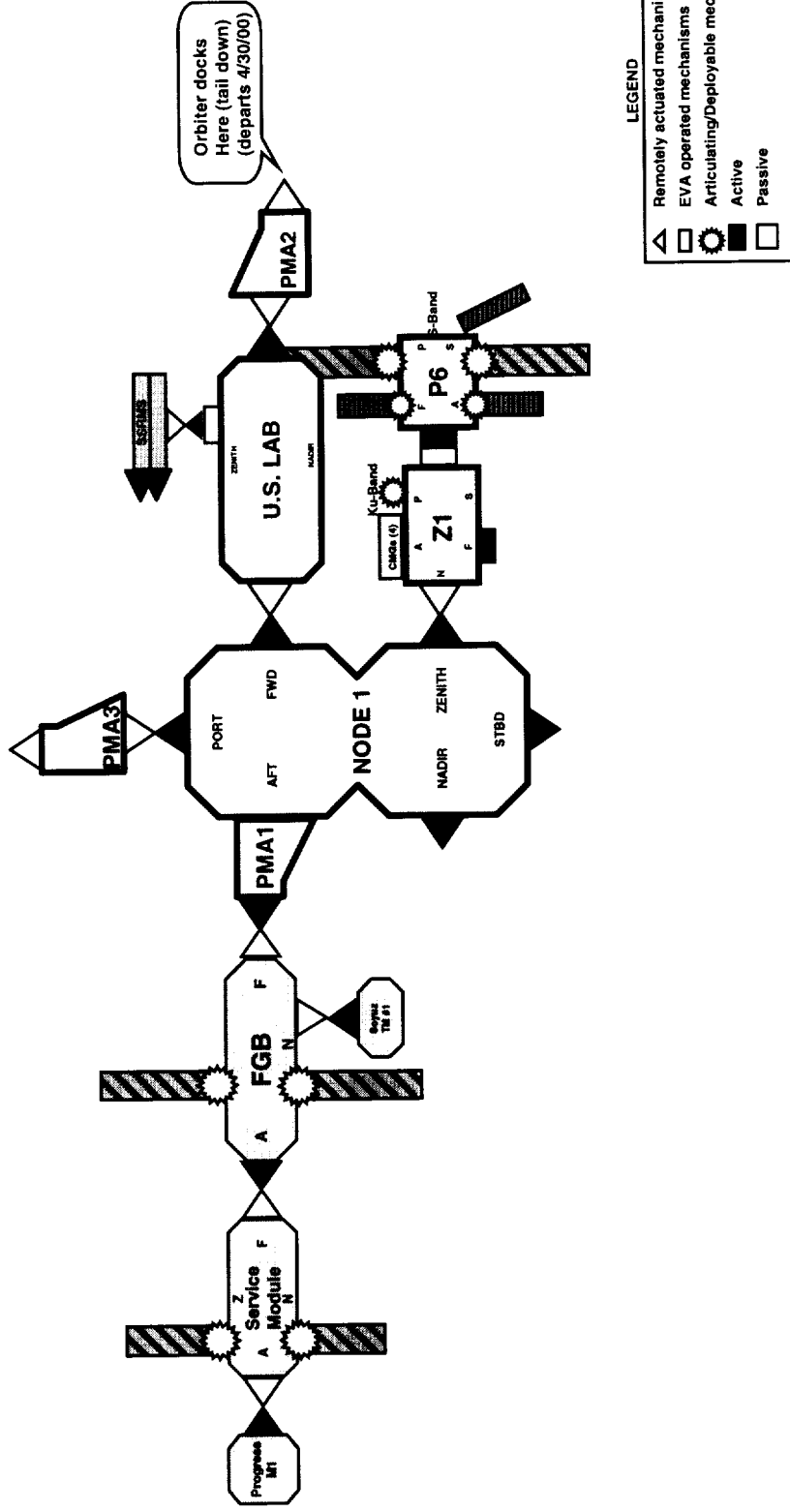
June 16, 1999

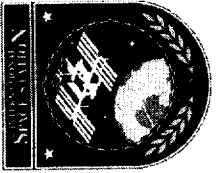


Flight 6A Microgravity Analysis



ISS 6A Configuration



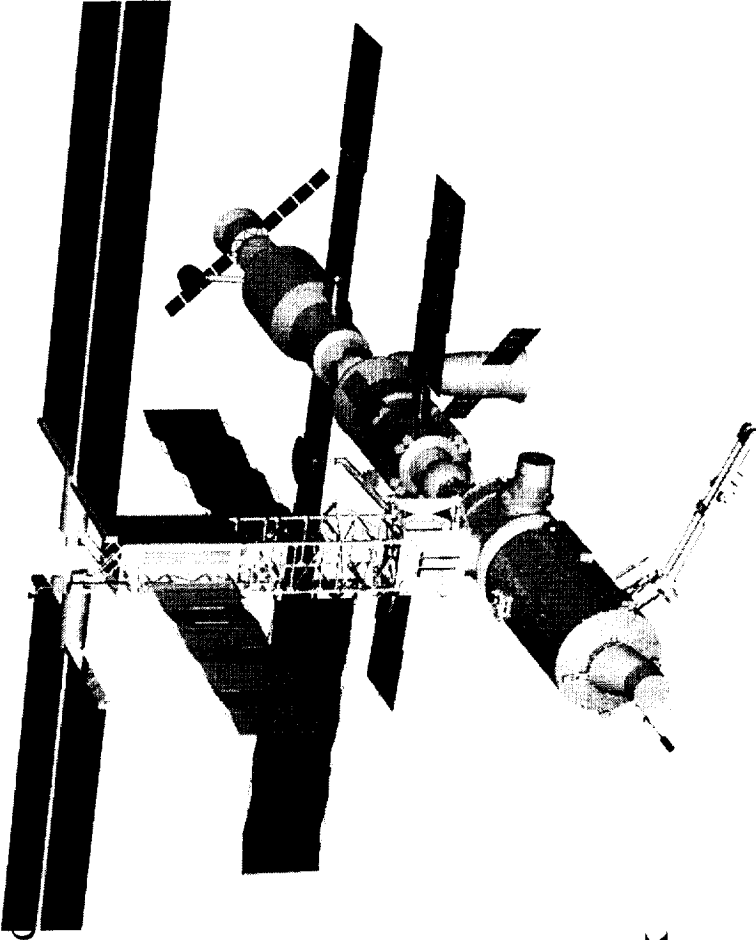


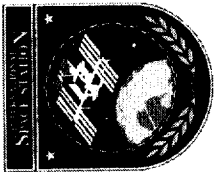
Flight 6A Microgravity Analysis



System Finite Element Model

- Verified Components:
 - Model Correlation for the standard shuttle launch configuration
- FGB Zarya
- Z1 Truss
- PV Arrays
- SM Zvezda
- Progress
- Node 1 Unity
- U.S. Lab Shell/Standoffs
 - System Racks
 - Express #1 Payload Rack

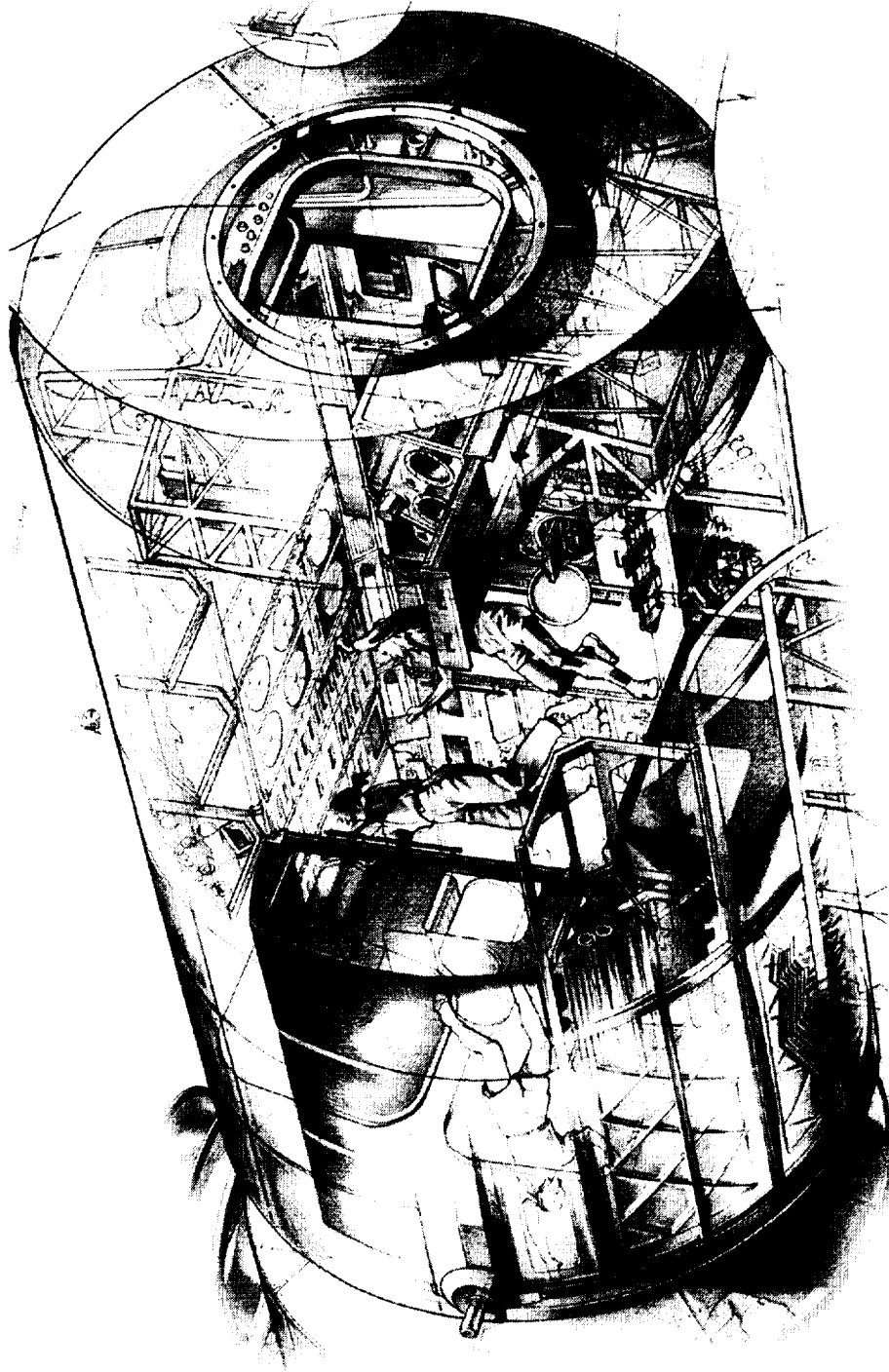




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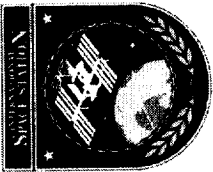


ISS U.S. Lab



6/15/99

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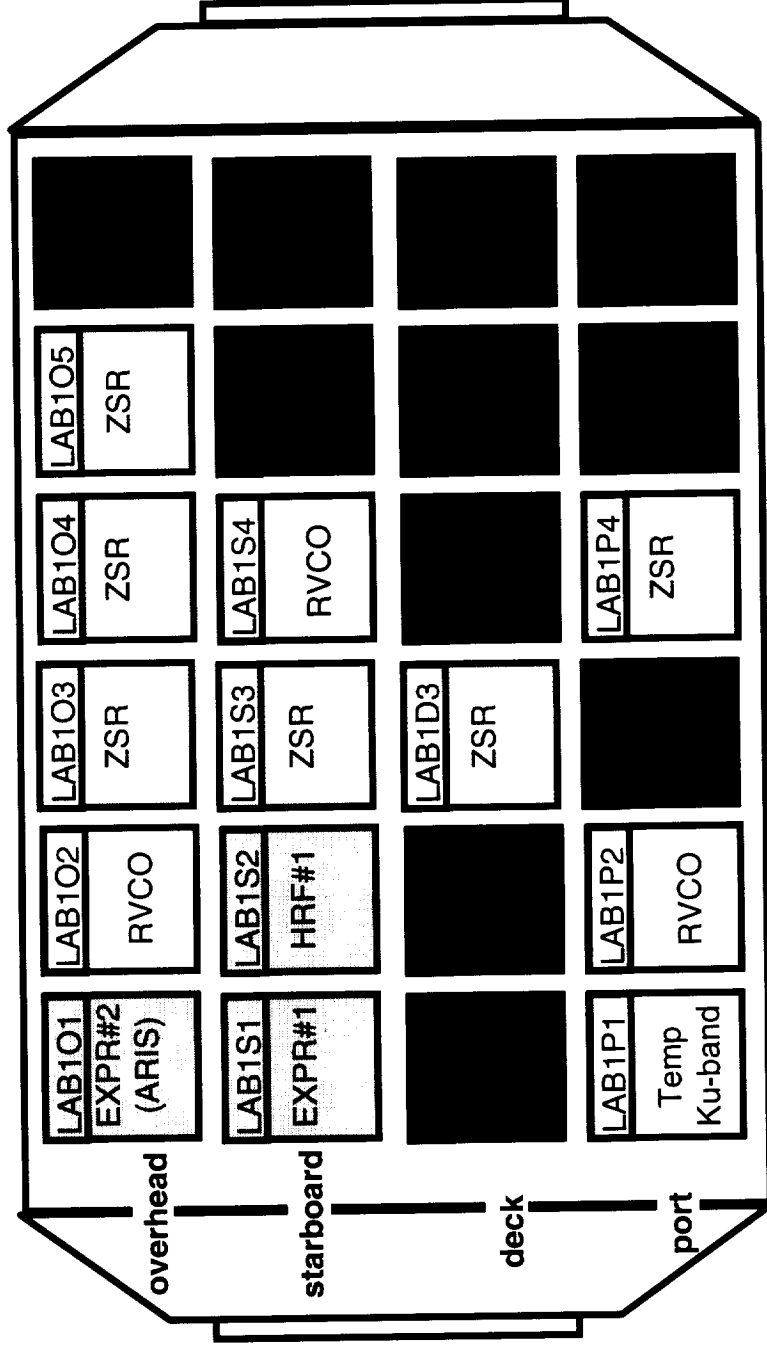


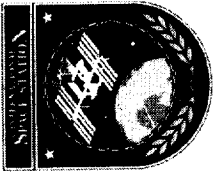
Flight 6A Microgravity Analysis



ISS 6A U.S. Lab Rack Configuration

- ZSR - Zero-G Soft Rack
- RVCO - Rack Volume Close-Out
- EXPR - Express Rack
- DDCU -
- TCS - Thermal control System
- ARIS - Active Rack Isolation System





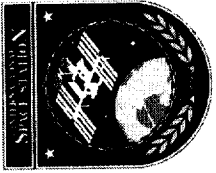
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U.S. Lab Acceleration Response

- 100 Response Locations Throughout Lab
- Upper and Lower Rack Interface with Standoff Links
- Standoff Link Interface to Standoffs
- Umbilical to Z-Panel Interface at Bottom of Rack
- Rack Interior Locations
- ARIS Isolation Plate to Standoff





Flight 6A Microgravity Analysis



ISS 6A Disturbance Sources

- Microgravity and Non-Microgravity Mode

P6 Truss Segment

- Ku-Band
- CMG
- Stick Slip

U.S. Lab

- Ergometer
- Vent
- Crew Push-Off

Service Module

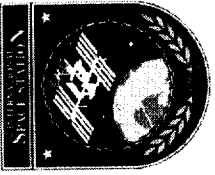
- Ergometer
- Treadmill Walking
- Treadmill Jogging

System Racks

- AAA, IMV Fans
- Coldplates
- CCAV/THC Fan

Reboost

- Service Module
- Progress



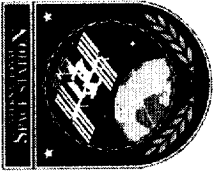
Flight 6A Microgravity Analysis



ISS 6A Predicted Acceleration Environment

- Microgravity Mode Disturbers

TBD - Results still outstanding



Flight 6A Microgravity Analysis



ISS 6A Predicted Acceleration Environment

- Non-Microgravity Mode Disturbances (Reboosts)

TBD - Results still outstanding